M30201T-PRB
User's Manual

Pod probe
for
M16C/20 Series

First Edition: November 18, 1998

Mitsubishi Electric Corporation
Mitsubishi Electric Semiconductor Systems Corporation

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Precautions to Be Taken When Using This Product

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Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Mitsubishi Tool Homepage http://www.tool-spt.mesc.co.jp/index_e.htm

Preface

M30201T-PRB is a pod probe for M16C/20 Series of Mitsubishi 16-bit microcomputers. M30201T-PRB is used by connecting to the M30200T-RPD-E emulation pod main unit and the PC4701 emulator main unit (PC4701HS, PC4701L, PC4700H or PC4700L), and is controlled by the emulator debugger.

This manual mainly explains specifications and setting up of M30201T-PRB. For detail information about the emulation pod main unit, emulator main unit and emulator debugger, refer to each user's manual.

To check the components of this product, refer to "Things to Check When Unpacking" in this manual. If there is any question or doubt about this product, contact your nearest Mitsubishi office or its distributor.

To use the product properly

Precautions for Safety:

- Both in this User's Manual and on the product itself, several icons are used to insure proper handling of this product and also to prevent injuries to you or other persons, or damage to your properties.
- The icons' graphic images and meanings are given in Chapter 1 Precautions for Safety. Be sure to read this chapter before using the product.

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Summary

Chapter 1. Precautions for Safety

This chapter describes the precautions which should be taken in order to use M30201T-PRB safely and properly. Refer to each manual of the emulator main unit, emulation pod main unit and emulator debugger for their precautions.

Chapter 2. Introduction

This chapter provides the system configuration and overview of M30201T-PRB.

Chapter 3. Specifications

This chapter lists the product specifications of M30201T-PRB.

Chapter 4. Setting Up

This chapter describes how to set up the M30201T-PRB hardware according to your system.

Chapter 5. Connection

This chapter describes how to connect the M30201T-PRB, emulator main unit and target system. For connection between the host machine and emulator main unit and the installation of emulator debugger, refer to each user's manual of the products.

Chapter 6. External Dimensions

This chapter shows the external dimensions of M30201T-PRB and its pitch converter board.

Chapter 7. Maintenance and Warranty

This chapter describes maintenance and warranty of M30201T-PRB.

Chapter 8. Troubleshooting

This chapter describes what to do when the pod probe does not work properly.

M30201T-PRB Repair Request Sheet

Technical Support Communication Sheet

Terminology

Some specific words used in this User's Manual are defined as follows:

Emulator system

This means an emulator system built around a PC4701 emulator. The PC4701 emulator system is configured with the emulator main unit, emulation pod main unit, pod probe, host machine, and emulator debugger.

Emulator main unit PC4701

This means the generic name for the PC4701HS, PC4701L, PC4700H, and PC4700L emulators.

Emulation pod main unit

This means the emulation pod main unit M30200T-RPD-E for M16C/20 series. The emulation pod for M16C/20 series is comprised of the emulation pod main unit and this product.

Pod probe

This means an emulation pod probe (this product) for M30201 Group.

Host machine

This means a personal computer used to control the emulator and emulation pod.

Emulator debugger

This means a software tool to control the emulator from the host machine through an interface (serial, parallel or LAN).

Emulator debugger: PD30 V.3.00
Host machine: IBM PC/AT or compatible
OS: Windows 95 or Windows NT 4.0
CPU: 486DX4-100MHz or Pentium 75MHz (or faster recommended)
Memory: 16MB or more

Firmware

This means a program that analyzes contents of communication with the emulator debugger and controls the emulator hardware. The emulator contains an EEPROM. You can download from the emulator debugger when upgrading the version of the firmware itself or when handling another MCU.

Target MCU

This means the microcomputer you are going to debug.

Target system

This means a user's application system using the microcomputer to be debugged.

Things to Check When Unpacking

M30201T-PRB consists of the following parts and manuals. When unpacking, check to see if your M30201T-PRB package contains all of these items.

Type name	Description	Quantity
M30201T-PRB	Pod probe for M30201 Group	1
M30201T-52SP	Pitch converter board	1
M30201T-56FP	Pitch converter board	1
Screws	Screws for connecting the pod probe	2
M30201T-PRB English user's manual	English user's manual (this manual)	1
M30201T-PRB Japanese user's manual	Japanese user's manual	1

Please keep the M30201T-PRB's packing box and cushion material in your place for reuse at a later time when sending your product for repair or other purposes. Always use these packing box and cushion material when transporting the products.

If any of these items are missing or found faulty, please contact your distributor. Also, if there is any question or doubt about the packaged product, contact your distributor.

Other tool products required for this product:

- Emulator main unit: PC4701HS, PC4701L, PC4700H or PC4700L (essential)
- Emulation pod main unit (for M16C/20 Series): M30200T-RPD-E (essential)
- Emulator debugger: PD30 (essential)
- PROM programming adapter (for 56-pin LQFP package): PCA7302F1F-56
- PROM programming adapter (for 52-pin SDIP package): PCA7302F1S-52

To purchase the products listed above, contact your nearest distributor.

Chapter 1. Precautions for Safety

In both the M30201T-PRB User's Manual and on the product itself, several icons are used to insure proper handling of this product and also to prevent injuries to you or other persons, or damage to your properties.

This chapter describes the precautions which should be taken in order to use M30201T-PRB safely and properly. Be sure to read this chapter before using this product.

1.1 Safety Symbols and Meanings

⚠ WARNING — If the requirements shown in the "WARNING" sentences are ignored, the equipment may cause serious personal injury or death.

⚠ CAUTION — If the requirements shown in the "CAUTION" sentences are ignored, the equipment may cause personal injury or damage to the products.

IMPORTANT — NOTE: Important information on using this product.

In addition to the three above, the following are also used as appropriate.

△ means WARNING or CAUTION

Example:

CAUTION AGAINST AN ELECTRIC SHOCK

⃠ means PROHIBITION

Example:

DISASSEMBLY PROHIBITED

● means A FORCIBLE ACTION

Example:

UNPLUG THE POWER CABLE FROM THE RECEPTACLE.

The following pages describes the symbols "WARNING", "CAUTION", and "IMPORTANT".

⚠ WARNING

Warning for Installation:

- Do not set this product in water or areas of high humidity. Make sure that the pod probe does not get wet. Spilling water or other liquids into the pod probe can cause an unrepairable damage.

Warning for Use Environment:

- This equipment is to be used in an environment with a maximum ambient temperature of 35°C. Care should be taken that this temperature is not exceeded.

⚠ CAUTION

Caution to be Taken for Modifying This Product:

- Do not disassemble or modify this product. Disassembling or modifying this product can cause damage. Disassembling and modifying the product will void your warranty.

Cautions to be Taken for This Product:

- Use caution when handling the pod probe. Be careful not to apply a mechanical shock.
- Do not touch directly the connector pins of the emulator main unit or the target MCU connector pins with your hand.
- Do not pull the emulation pod main unit by the FLX120-RPD flexible cable or the FLX64 flexible cable.
- The flexible cables FLX120-RPD and FLX64 are different from earlier models. The slits make them more flexible. However, excessive flexing or force may break conductors.
- Do not use inch-size screws for this equipment. The screws used in this equipment are all ISO (meter-size) type screws. When replacing screws, use same type screws as used on the equipment.

IMPORTANT

Notes on PC4701 Emulator Main Units:

- When using this product outside Japan, be sure to use the PC4701HS or PC4701L emulator main unit. EMI standards are not met when this product is used with the PC4700H or PC4700L emulator main unit.
- The PC4700H emulator main units whose serial number ends with a number cannot be used with M30201T-PRB. Use only products whose serial number ends with a letter of the alphabet. The serial number is on the bottom of the PC4700H.

  Example: 5KE100 ..... Can NOT be used with M30200T-RPD-E. Requires an upgrade.
  Example: 5LE123B ..... Can be used with M30200T-RPD-E.
- Do not turn off the power when downloading firmware. If the emulator is powered off in the middle of the process, it will become unable to start up normally. In cases when the power is inadvertently shut off, re-execute downloading.

Note on Abnormal Operation of PC4701 System:

- If the PC4701 system does not pass all self-checks (excluding when an target system error occurs), there is the possibility of trouble in the system. In such case, contact the place of purchase. (Self-check should be executed when the target system is not connected.)
- If the emulator main unit malfunctions due to external interference or some other causes, follow the steps given below.

  (1) Press the system reset switch located on the front panel of the emulator main unit.
  (2) If the emulator does not return to the normal operation despite the step (1) above, turn off the power source of the emulator, turn it on again.

Notes on the Target System:

- Because the emulation pod main unit does not have the capacity to supply power to other devices, design your system so that the emulator MCU is powered by the target system.
- Make sure that the target's supply voltage is 2.7 to 5V.
- Before turning on power to anything, check the host machine, emulator main unit, emulation pod main unit, pod probe, converter board and user's target system are properly connected. As explained here following, activate power to units as simultaneously as possible. Reverse the procedure to turn them off.

  (1) Turn on the target system.
  (2) Turn on the emulator main unit.

IMPORTANT

Notes on Connecting Pod Probe and Pitch Converter Board:

- When connecting the pod probe and the pitch converter board, be careful not to forcibly press the connector top of the converter board. (The flexible cable and the converter board are guaranteed for only 20 insertion/removal iterations.)
- Especially be careful not to insert the converter board in the wrong direction.

Note on Starting Up the Emulator System:

- Check the emulator starts up properly from the target status LEDs on the front panel of the emulator main unit itself.

  When power is received from the target system: ... The POWER target status is ON.
  When the clock starts oscillating: ..... The CLOCK target status is ON.
  When the reset is released: ..... The RESET target status is OFF.

  If the LEDs behave as described above within approximately 5 seconds (for PC4701HS and PC4700H) or 3 seconds (for PC4701L and PC4700L) of turning ON the power, the emulator has started up properly.

Notes on Reset Input from the Target System:

- The reset input from the target system is accepted only during program execution (while the RUN signal LED on the PC4701 is lit).

IMPORTANT

Note on Address 0 Access:

- With the M16C/20 series MCU, when a maskable interrupt is generated, the interrupt data (interrupt No. and interrupt request level) stored in address 0 is read out. Also, the interrupt request bit is cleared when address 0 is read out. Consequently, when the address 0 read-out instruction is executed or when address 0 is read out in the cause of a program runaway, a malfunction occurs in that the interrupt is not executed despite the interrupt request, because the request bit of the highest priority interrupt factor enabled is cleared.

Note on Differences between Actual MCU and Emulator:

- Emulator operation differs from mask MCU operation, as listed below:

  (1) Initial values of internal resource data at power-on
  (2) Internal ROM and RAM capacities, etc.
  (3) A/D converter

  A/D converter characteristics differ from actual MCU characteristics because the flexible cable and other elements are used between the emulation MCU and target system.

Note on Referencing and Setting the Work Area:

- The work area given below is assigned as the initial setting at the time of starting up the emulator debugger. Use the initial setting for the M30201T-PRB pod probe for M30201 Group.

  $02C00_{16}$ to $02C0F_{16}$: Work area

Notes on MAP References and Settings:

- When starting up M30200T-RPD-E, initial MAP settings are as follows.

  00000_{16} to $003FF_{16}$: EXT
  00400_{16} to $FFFFF_{16}$: INT

- Always set the SFR area to EXT (external).

Note on Changing Settings of the Memory Area:

- To debug an MCU different in memory capacity, be sure to modify the settings in the memory area before using the MCU. For memory maps of respective MCUs, see the MCU User's Manual.

IMPORTANT

Note on Stack:

- This product uses up to 8 bytes for stack.

Note on BRK Instruction:

- BRK instruction cannot be used.

Note on Software Break and Hardware Break:

- A software break and a hardware break cannot be used simultaneously. If they are used simultaneously, the emulation pod main unit may not work properly.

Notes on Using Address-match Interrupts:

- Do not set software breaks at the same addresses as address-match interrupts as the program may run out of control.
- Do not set a hardware break within 4 instructions before an address at which an address-match interrupt occurs. If you do set a hardware break in this range, the program will run out of control.
- When an address at which an address-match interrupt occurs is executed in one-step mode, the program stops after executing the first instruction after returning from the address-match interrupt processing.

Note on Software Reset:

- Do not use the software reset. It may not work properly.

Note on Stop and Wait Modes:

- Do not perform step execution at addresses in the stop or wait mode. It may cause communication errors.

Note on Watchdog Function:

- Debug functions such as a single step cannot be used while using the watchdog function. Only GO command (program execution) is possible. To use other debug functions, disable the watchdog function.

Chapter 2. Introduction

M30201T-PRB is used by connecting to the PC4701 emulator and the M30200T-RPD-E emulation pod main unit. Figure 2.1 shows the system configuration.

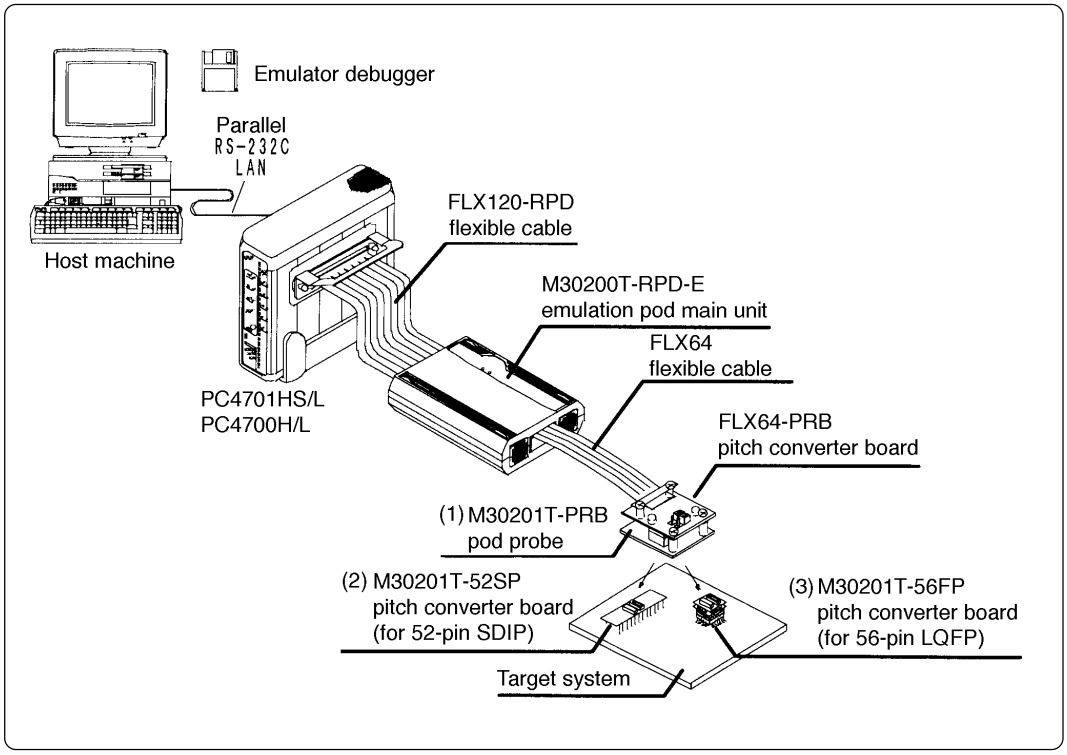


Figure 2.1 System configuration

Products (1) to (3) shown in Figure 2.1 are included with this product.

(1) M30201T-PRB (Pod probe)

This pod probe is equipped with the M30201M4 evaluation MCU.

(2) M30201T-52SP (Pitch converter board)

This board connects the pod probe and the 52-pin SDIP socket on the target system.

(3) M30201T-56FP (Pitch converter board)

This board connects the pod probe and a foot pattern for 56-pin LQFP on the target system.

Chapter 3. Specifications

Table 3.1 lists the specifications of M30201T-PRB.

Table 3.1 Specifications of M30201T-PRB

Usable emulator	PC4701HS, PC4701L, PC4700H and PC4700L
Emulation pod main unit	M30200T-RPD-E
Usable MCU	M30201 Group MCUs
Usable MCU mode	Single-chip mode
Emulation memory	1MB
Clock	4.0 to 5.5V: Xin=10MHz 2.7 to 5.5V: Xin=7MHz (1 wait)
Power supply range	+2.7 to 5.5V
Stack capacity used for emulator	Up to 8 bytes
Suspended cycles in run-time debug	16-byte dump: Approx. 312 BCLK cycle 16-byte fill: Approx. 283 BCLK cycle
Power supply to emulation pod main unit	1. Supplied from an emulator main unit 2. The operating voltage of the emulation pod main unit is determined by detecting the supply voltage of the target system. When no target system is connected, or when the supply voltage of the target system is more than 5.0V, the operating voltage is 5.0V.
Operating temperature range	5 to 35°C (no dew)
Storage temperature range	-10 to 60°C (no dew)

Chapter 4. Setting Up

4.1 Switch Settings

Change the switch settings of FLX64-PRB for debugging according to target systems. Figure 4.1 shows the positions of the switches, and Table 4.1 shows the switch settings.

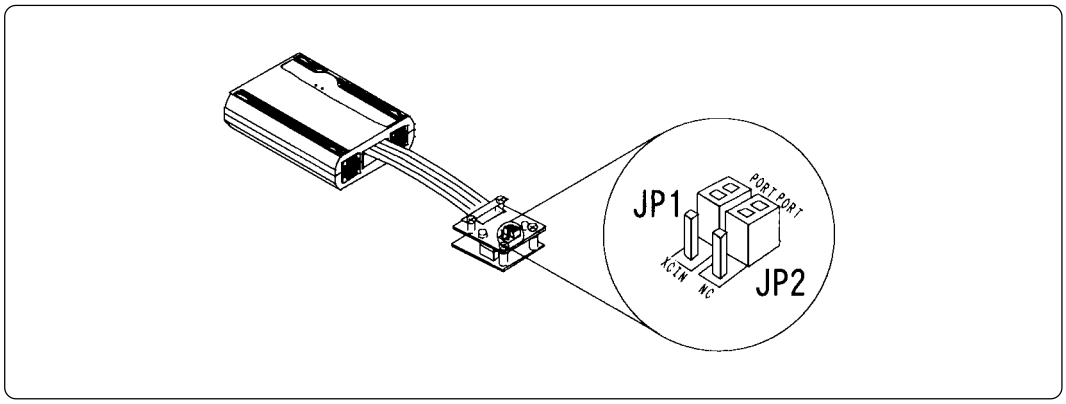
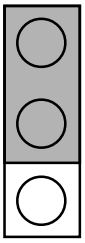
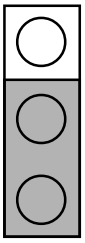
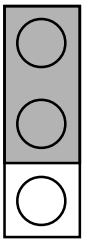
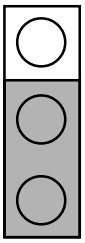


Figure 4.1 Positions of the switches of FLX64-PRB

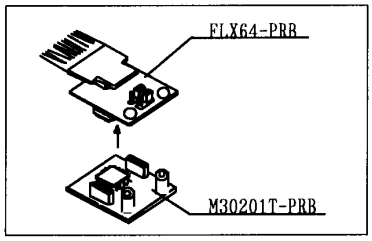
Table 4.1 Switch settings of FLX64-PRB

Function	Switch No.	Switch setting	
P71/Xcin	JP1	PORT  XCIN To use P71/Xcin as a port (Factory-setting)	PORT  XCIN To use P71/Xcin as an Xcin
P70/Xcout	JP2	PORT  NC To use P70/Xcout as a port (Factory-setting)	PORT  NC Not to use P70/Xcout

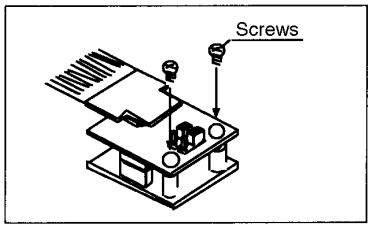
Chapter 5. Connection

5.1 Connection to the M30200T-RPD-E Emulation Pod Main Unit

The emulation pod for M30201 Group consists of the M30200T-RPD-E emulation pod main unit and the M30201T-PRB pod probe. Figure 5.1 shows how to connect the M30201T-PRB pod probe. And Figure 5.2 shows how to remove it.

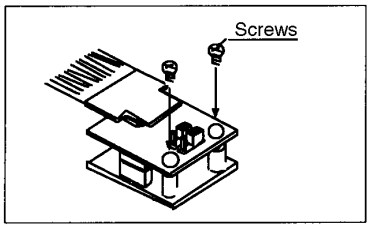


(1) Attach the J1 and J2 connectors of M30201T-PRB to the J3 and J4 connectors of FLX64-PRB respectively.

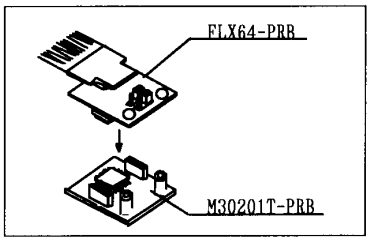


(2) Secure the FLX64-PRB with the two screws.

Figure 5.1 Connecting the M30201T-PRB pod probe



(1) Unscrew the two screws of M30201T-PRB.



(2) Lift off the M30201T-PRB from the FLX64-PRB. Pull the M30201T-PRB straight down carefully. Applying a twist to them may cause damage to the connectors.

Figure 5.2 Removing the M30201T-PRB pod probe

⚠ Caution

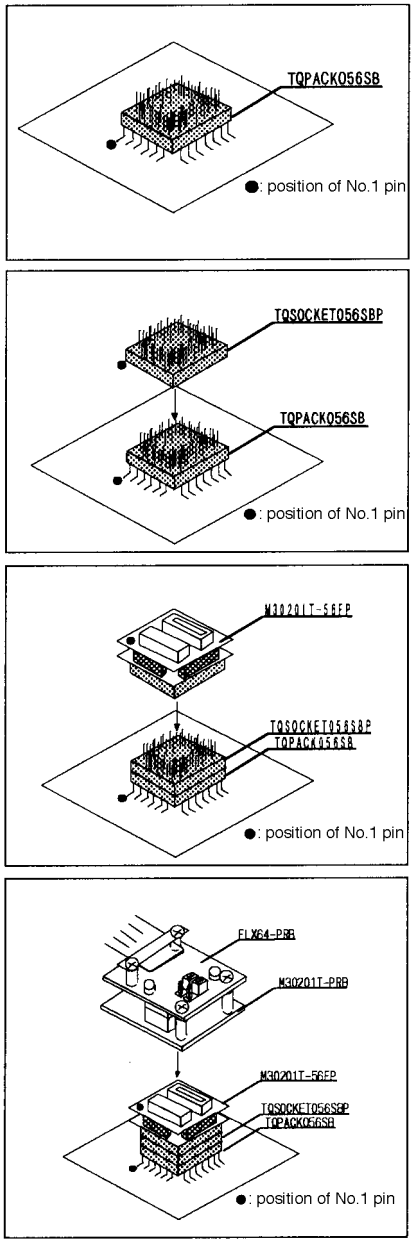
Note on Connecting the Cable:

- Be sure to turn off the power before making connections. Otherwise, the internal circuits may be damaged.
- The small connectors (J3 and J4) of M30201T-PRB are guaranteed for only 20 insertion/removal iterations.
- The small connectors (J3 and J4) of FLX64-PRB and the connectors (J1 and J2) of M30201T-PRB are guaranteed for only 50 insertion/removal iterations.

5.2 Connection to the Pitch Converter Board

Two pitch converter boards (M30201T-56FP and M30201T-52SP) are available for the emulation pod for M30201 Group.

Figure 5.3 shows how to connect the M30201T-PRB to the M30201T-56FP for 56-pin LQFP. And Figure 5.4 shows how to connect the M30201T-PRB to the M30201T-52SP for 52-pin SDIP.



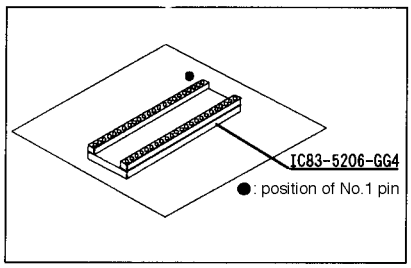
(1) Mount the TQPACK056SB (included) on the target system.

(2) Connect the TQSOCKET056SBP (included) to the TQPACK056SB.

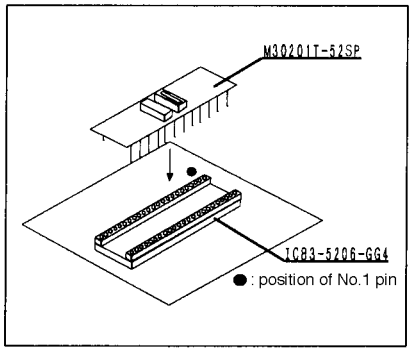
(3) Connect the M30201T-56FP to the TQSOCKET056SBP.

(4) Connect the M30201T-PRB to the M30201T-56FP.

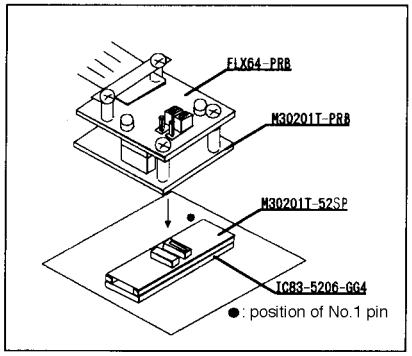
Figure 5.3 Connection to the M30201T-56FP pitch converter board for 56-pin LQFP



(1) Mount the IC83-5206-GG4 (made by Yamaichi Electronics Co., Ltd.) for 52-pin SDIP on the target board.



(2) Connect the M30201T-52SP to the IC83-5206-GG4 mounted on the target board.



(3) Connect the M30201T-PRB to the M30201T-52SP.

Figure 5.4 Connection to the M30201T-52SP pitch converter board for 52-pin SDIP

⚠ Caution

Note on Connecting the Cable:

- Be sure to turn off the power before making connections. Otherwise, the internal circuits may be damaged.
- The small connectors (J1 and J2) of M30201T-56FP are guaranteed for only 20 insertion/removal iterations.
- The small connectors (J1 and J2) of M30201T-52SP are guaranteed for only 20 insertion/removal iterations.

Chapter 6. External Dimensions

Figures 6.1 shows external dimensions of M30201T-PRB.

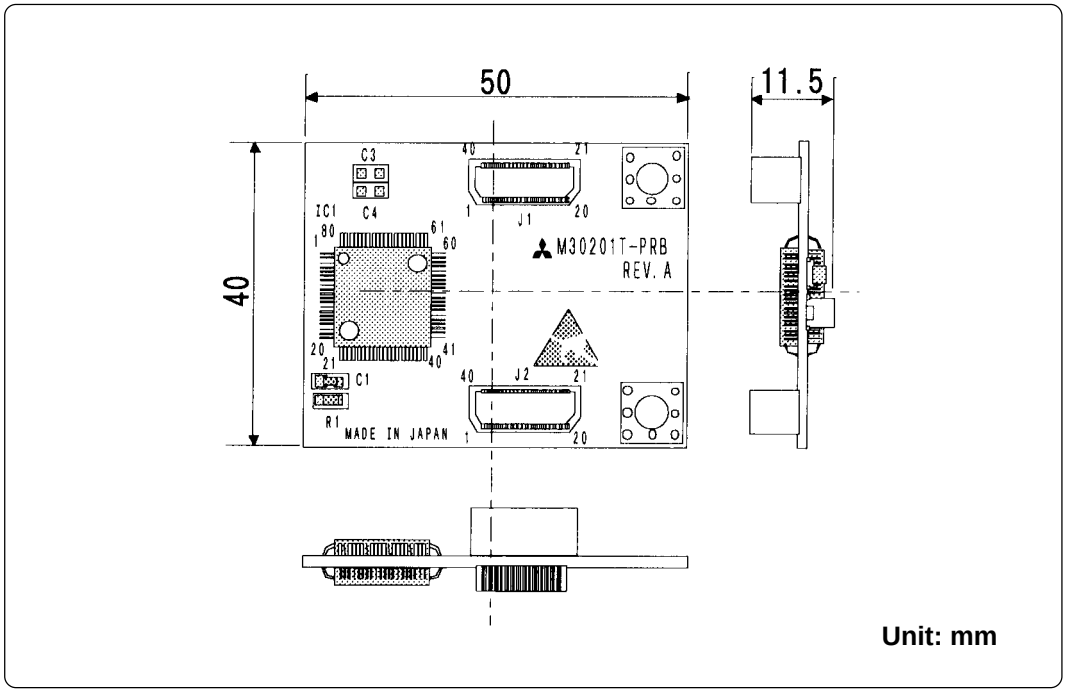


Figure 6.1 External dimensions of M30201T-PRB

Figures 6.2 shows external dimensions and a sample foot pattern of the M30201T-56FP pitch converter board for 56-pin LQFP. And Table 6.1 shows the connector assignments of the M30201T-56FP pitch converter board for 56-pin LQFP.

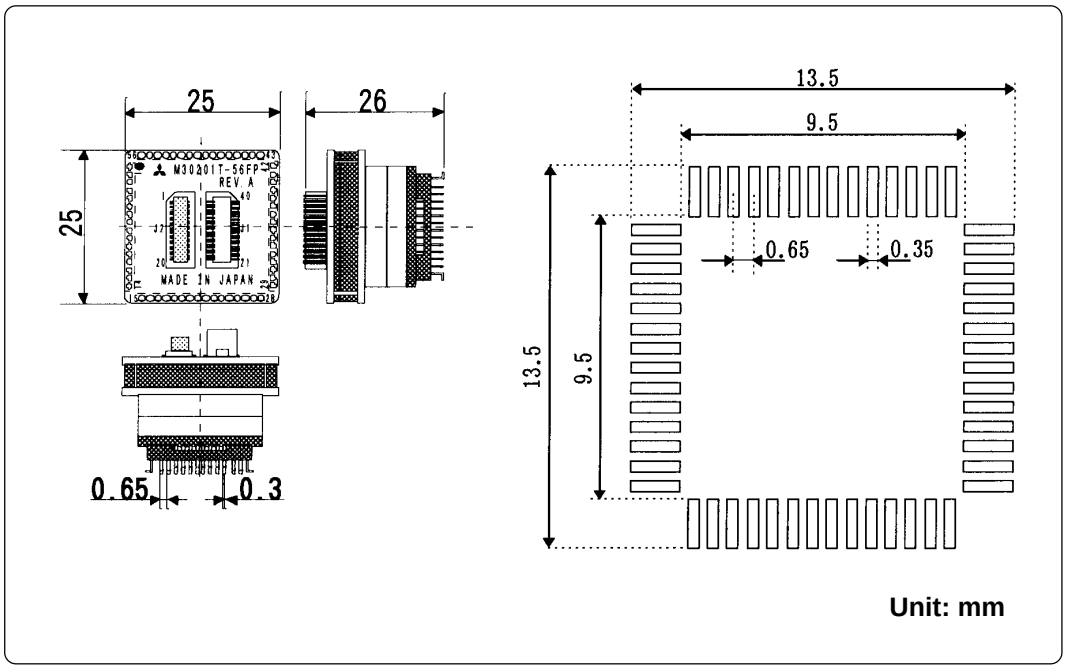


Figure 6.2 External dimensions of M30201T-56FP

Table 6.1 Connector assignments of M30201T-56FP

Connector No.	IC No.	Signal	Connector No.	IC No.	Signal	Connector No.	IC No.	Signal	Connector No.	IC No.	Signal
J1-1	NC		J1-21	NC		J2-1	NC		J2-21	NC	
J1-2	NC		J1-22	NC		J2-2	NC		J2-22	NC	
J1-3	6	RESET	J1-23	NC		J2-3	NC		J2-23	NC	
J1-4	NC		J1-24	42	P67/AN7	J2-4	14	P43/INT0	J2-24	34	P06
J1-5	5	P70/TB0IN	J1-25	43	P66/AN6	J2-5	15	P42/RXD1	J2-25	33	P07
J1-6	4	P71/TB1IN	J1-26	44	P65/AN5	J2-6	16	P41/TA0OUT	J2-26	32	P10
J1-7	3	CNVSS	J1-27	45	P64/AN4	J2-7	17	P40/TA0IN	J2-27	31	P11
J1-8	2	P50/TXD0	J1-28	46	P63/AN3	J2-8	19	P35	J2-28	30	P12
J1-9	1	P51/RXD0	J1-29	47	P62/AN2	J2-9	20	P34	J2-29	29	P13
J1-10	56	P52/CLK0	J1-30	48	P61/AN1	J2-10	21	P33	J2-30	28	P14
J1-11	NC		J1-31	NC		J2-11	NC		J2-31	NC	
J1-12	NC		J1-32	NC		J2-12	NC		J2-32	NC	
J1-13	40	P00	J1-33	49	AVSS	J2-13	22	P32	J2-33	8	XOUT
J1-14	39	P01	J1-34	50	P60/AN0	J2-14	23	P31	J2-34	9	VSS
J1-15	38	P02	J1-35	51	VREF	J2-15	24	P30	J2-35	10	XIN
J1-16	37	P03	J1-36	52	AVCC	J2-16	25	P17	J2-36	11	VCC
J1-17	36	P04	J1-37	54	P54/CKOUT	J2-17	26	P16	J2-37	NC	
J1-18	35	P05	J1-38	55	P53/CLKS	J2-18	27	P15	J2-38	NC	
J1-19	NC		J1-39	NC		J2-19	NC		J2-39	12	P45/TX2INOUT
J1-20	NC		J1-40	NC		J2-20	NC		J2-40	13	P44/INT1

Figures 6.3 shows external dimensions of the M30201T-52SP pitch converter board for 52-pin SDIP. And Table 6.2 shows the connector assignments of the M30201T-52SP pitch converter board for 52-pin SDIP. Use the IC83-5206-GG4 (made by Yamaichi Electronics Co., Ltd.) as a socket for the M30201T-52SP pitch converter board for 52-pin SDIP.

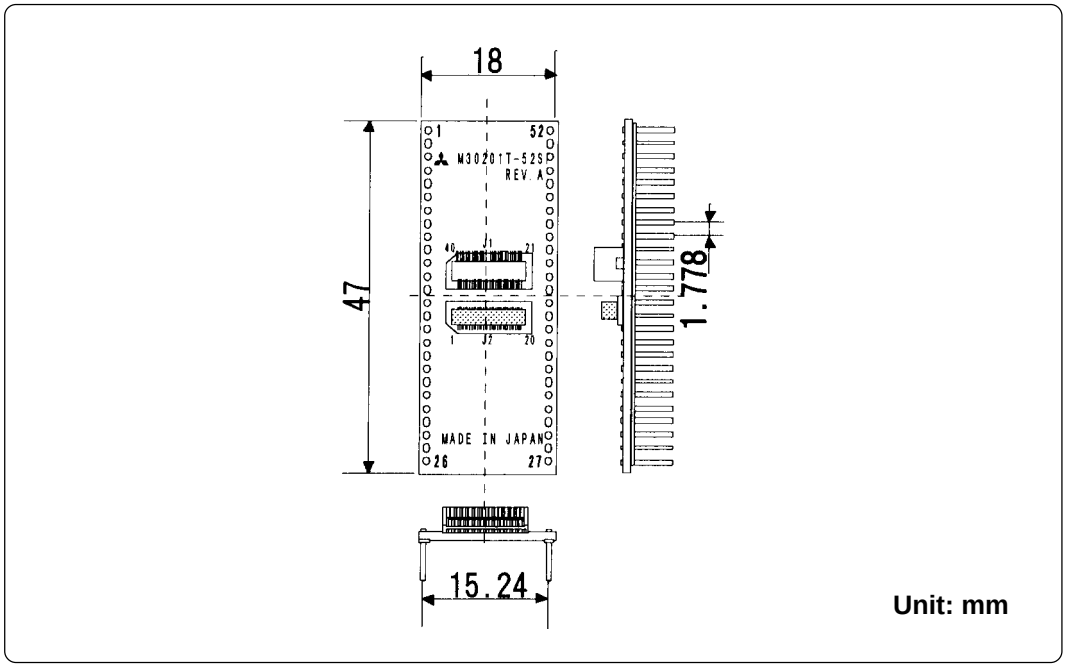


Figure 6.3 External dimensions of M30201T-52SP

Table 6.2 Connector assignments of M30201T-52SP

Connector No.	IC No.	Signal	Connector No.	IC No.	Signal	Connector No.	IC No.	Signal	Connector No.	IC No.	Signal
J1-1	NC		J1-21	NC		J2-1	NC		J2-21	NC	
J1-2	NC		J1-22	NC		J2-2	NC		J2-22	NC	
J1-3	13	RESET	J1-23	NC		J2-3	NC		J2-23	NC	
J1-4	NC		J1-24	46	P67/AN7	J2-4	20	P43/INT0	J2-24	39	P06
J1-5	12	P70/TB0IN	J1-25	47	P66/AN6	J2-5	21	P42/RXD1	J2-25	38	P07
J1-6	11	P71/TB1IN	J1-26	48	P65/AN5	J2-6	22	P41/TA0OUT	J2-26	37	P10
J1-7	10	CNVSS	J1-27	49	P64/AN4	J2-7	23	P40/TA0IN	J2-27	36	P11
J1-8	9	P50/TXD0	J1-28	50	P63/AN3	J2-8	24	P35	J2-28	35	P12
J1-9	8	P51/RXD0	J1-29	51	P62/AN2	J2-9	25	P34	J2-29	34	P13
J1-10	7	P52/CLK0	J1-30	52	P61/AN1	J2-10	26	P33	J2-30	33	P14
J1-11	NC		J1-31	NC		J2-11	NC		J2-31	NC	
J1-12	NC		J1-32	NC		J2-12	NC		J2-32	NC	
J1-13	45	P00	J1-33	1	AVSS	J2-13	27	P32	J2-33	14	XOUT
J1-14	44	P01	J1-34	2	P60/AN0	J2-14	28	P31	J2-34	15	VSS
J1-15	43	P02	J1-35	3	VREF	J2-15	29	P30	J2-35	16	XIN
J1-16	42	P03	J1-36	4	AVCC	J2-16	30	P17	J2-36	17	VCC
J1-17	41	P04	J1-37	5	P54/CKOUT	J2-17	31	P16	J2-37	NC	
J1-18	40	P05	J1-38	6	P53/CLKS	J2-18	32	P15	J2-38	NC	
J1-19	NC		J1-39	NC		J2-19	NC		J2-39	18	P45/TX2INOUT
J1-20	NC		J1-40	NC		J2-20	NC		J2-40	19	P44/INT1

Chapter 7. Maintenance and Warranty

7.1 Maintenance

If dust or dirt collects on any equipment of your emulator system, wipe it off with a dry soft cloth. Do not use thinner or other solvents because these chemicals can cause the equipment's surface coating to separate.

7.2 Warranty

The emulation pod presented here has passed Mitsubishi's product inspection. If your emulation pod becomes faulty within 12 months after purchase while being used under good conditions by observing "Chapter 1. Precautions for Safety" in this manual, Mitsubishi will repair the fault free-of-charge. (This provision does not apply to emulation pods leased to you.) When repair is required, contact your nearest of Mitsubishi office or its distributor.

7.3 Repair Provisions

If a fault in your equipment falls under one of the following categories, the fault will be corrected by replacing the entire equipment instead of repairing, depending on the severity of fault:

- Faulty or broken mechanical section
- Flaw, separation, or rust in coated or plated section
- Flaw or crack in plastic section
- Fault or breakage caused by incorrect use or unauthorized repair or modification
- Heavily damaged electric circuits due to shorting of power supply, overvoltage, or overcurrent
- Crack in printed circuit board or burned-down patterns
- Broad range of fault making replacement less expensive than repairing
- Unlocatable or unidentifiable fault

7.4 How to Request for Repair

If your product is found faulty after checking items in "Chapter 8. Troubleshooting", follow the procedure below to send your product for repair.

Customer　Something found faulty

Fill in the “M30201T-PRB Repair Request Sheet” attached hereto, then send it along with the M30201T-PRB for repair to your distributor or nearest office of Mitsubishi Electric.

Make sure that information in the M30201T-PRB Repair Request Sheet is written in as much detail as possible to facilitate repair.

Distributor　Contents of fault checked

After checking the contents of fault, the distributor should please send the faulty M30201T-PRB along with the Repair Request Sheet to Mitsubishi Electric.

Mitsubishi Electric Semiconductor Systems Corporation, Repaired by

When the faulty product is repaired, it will be returned to the customer at the earliest convenience.

⚠ Caution

Note on Transporting the Product:

- When sending your product for repair, use the packing box and cushion material supplied with the product when delivered to you and specify handling caution for it to be handled as precision equipment.

  If packing of your product is not complete, it may be damaged during transportation. When you pack your product in a bag, make sure to use conductive polyvinyl supplied with the product (usually a blue bag). When you use other bags, they may cause a trouble on your product because of static electricity.

Chapter 8. Troubleshooting

When the M30201T-PRB does not work properly, check the items listed below.

(1) The emulator main unit cannot be powered up.

- ☐ Check to see if the AC power cord is firmly plugged into the receptacle.
- ☐ Check to see if the AC power 3P-2P converting connector is firmly connected.

(2) Does not start up when the target system is connected with the PC4701 system. (The Error LED of the emulator main unit lights up.)

- ☐ Check (1) described above.
- ☐ Check whether the emulator main unit and the FLX120-RPD are firmly connected.
- ☐ Check whether the FLX120-RPD and the M30200T-RPD-E are firmly connected.
- ☐ Check whether the M30200T-RPD-E and the M30201T-PRB are firmly connected.
- ☐ Check whether the converter board (M30201T-56FP or M30201T-52SP) and the target system are firmly connected.
- ☐ Check whether the power and GND are supplied to the target system.
- ☐ Check whether switches of the M30201T-PRB pod probe are properly set. (see Chapter 5. Connection)
- ☐ Check whether the RESET pin is held 'HIGH' when the target system is connected.
- ☐ Check whether the oscillator circuit of the target system is oscillating correctly when using the oscillator of the target system.
- ☐ Check whether proper firmware is downloaded in the emulator main unit. (Refer to the user's manual of the emulator debugger about how to download firmware.)

When the condition does not improve even if you check the items above, troubles described below are considered.

(1) Trouble of the evaluation MCU

(2) Trouble of the M30200T-RPD-E emulation pod

(3) Trouble of the M30201T-PRB pod probe

(4) Trouble of the PC4701 emulator main unit

M30201T-PRB Repair Request Sheet

Date:___/___/___(Total Pages:)

To Distributor:

Contact Address	Product Information
Company:	Product name: M30201T-PRB
Department:	Serial number:
Responsible person:	Date of purchase:
Phone:	Target MCU:
FAX:	Frequency: MHz
E-mail:	Voltage: V
Address:	

Symptoms: Write in detail by itemizing each observed symptom.

Occurrence frequency
- Regularly
- Frequency ( )

Cause of fault: Write your estimated cause of fault or the sequence of operation when the fault occurred.

Operating environment:

Emulator: _____ Serial number: _____

LAN option [☐ installed / ☐ not installed]

Serial number of PC4701LAN: _____

Host machine: _____ OS & version: _____ V . .

Emulator debugger: _____ V . .

Remarks: If you have any special request such as your desired delivery period, write it down here.

If this form does not have sufficient space, use another sheet of paper to write your information.

Technical Support Communication Sheet

Date:___/___/____(Total Pages:)

To Distributor:

Contact Address	Product Information
Company:	Emulator:
Department:	Serial number:
Responsible person:	Emulation Pod:
Phone:	Serial number:
FAX:	Emulator debugger:
E-mail:	Version:
Address:	License ID: - - - -
	Host machine: OS & version :
	Target MCU:
Message:	

If this form does not have sufficient space, use another sheet of paper to write your information.